

Appl. No. 09/683,993
Summary of Telephonic Interview
Dated July 18, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented):

- 1 A device comprising:
- 2 a port to receive one or more data streams, each data stream including one or more data
- 3 frames;
- 4 a task scheduler coupled to the port, the task scheduler to generate a task identifier for
- 5 every data frame received;
- 6 a first queue to hold task identifiers for which a corresponding data frame is of a first
- 7 priority type;
- 8 a second queue to hold task identifiers for which the corresponding data frame is of a
- 9 second priority type, the second priority type different than the first priority type;
- 10 a switch coupled to the first and second queues, the switch configured to retrieve task
- 11 identifiers from the first queue and the second queue in a fair manner;
- 12 a third queue coupled to the switch, the third queue to hold a plurality of task identifiers
- 13 placed in the third queue by the switch and provide the task identifiers to a processing
- 14 unit in the order task identifiers were placed in the third queue by the switch;
- 15 a classifier coupled to the port and to the first queue, the classifier to assign one of a
- 16 plurality of priority types to every data frame received, the plurality of priority types
- 17 including the first priority type and the second priority type, the classifier to monitor the
- 18 first queue for an overflow condition and, if an overflow condition is detected, to reassign
- 19 data frame priority types from the first priority type to the second priority type to prevent
- 20 overflow of the first queue; and
- 21 a task router coupled to the task scheduler, the classifier, the first queue, and the second
- 22 queue, the task router configured to
- 23 receive the task identifier from the task scheduler, the task identifier corresponding to
- 24 a received data frame,
- 25 receive a priority type from the classifier, the priority type corresponding to the
- 26 received data frame,
- 27 place the task identifier in the first queue if the priority type is the first priority type,
- 28 and
- 29 place the task identifier in the second queue if the priority type is the second priority type.

2. (cancelled)

Appl. No. 09/683,993
Summary of Telephonic Interview
Dated July 18, 2006

3. (previously presented):

- 1 The device of claim 1 further comprising:
2 a look-up table communicatively coupled to the task scheduler and to the port, the look-
3 up table to provide one of the first priority type and the second priority type to the task
4 scheduler for every data frame received according to the data stream in which the data
5 frame was included.

4. (previously presented):

- 1 The device of claim 3 wherein one of the first priority type and the second priority type is
2 pre-assigned to the data stream.

5. (previously presented):

- 1 The device of claim 3 wherein the conversions between priority types and data frame types
2 are dynamically configured in response to usage of the first and second queues.

6.-7. (cancelled)

8. (previously presented):

- 1 The device of claim 1 wherein the switch is configured to retrieve task identifiers from both
2 the first and second queues in a task retrieval cycle in which at least one task identifier is
3 retrieved from each of the first and second queues such that space in the third queue is
4 allotted equally according to processing time restrictions.

9. (previously presented):

- 1 The device of claim 1 wherein the switch is configured to retrieve task identifiers with the
2 first priority type until a cumulative processing time requirement for the retrieved task
3 identifiers with the first priority type is substantially equal to a processing time requirement
4 for the task identifiers with the second priority type, and then to retrieve a task identifier with
5 the second priority type.

Appl. No. 09/683,993
Summary of Telephonic Interview
Dated July 18, 2006

10. (original):

- 1 The device of claim 1 wherein the third queue is a shared execution queue from which one or
2 more processing units retrieve task identifiers to process.

11. (currently amended):

- 1 A method comprising:
2 receiving one or more data streams, each data stream including one or more data frames
3 of one or more data frame ~~types;~~ types, each data frame type corresponding to a particular
4 processing time requirement for data frames of the data frame type;
5 determining a task priority level for each data frame received;
6 routing each data frame to one of one or more storage queues based on the task priority
7 level of each data frame;
8 retrieving the data frames from the one or more storage queues during a task retrieval
9 cycle according to a fair and weighted processing scheme based on task priority level;
10 and level, wherein data frames of approximately equal total processing time restrictions
11 are retrieved from each storage queue in a task retrieval cycle;
12 reassigning the task priority level for each data frame received prior to routing if an
13 overflow condition is detected in a first storage queue and if the task priority level would
14 cause a data frame to be stored in the first storage queue, the task priority level being
15 reassigned to a task priority level that will cause the data frame to be stored in other than
16 the first storage ~~queue;~~ queue; and
17 placing a plurality of the retrieved data frames into an execution queue to be processed by
18 a processing unit.

12. (previously presented):

- 1 The method of claim 11 wherein the task priority level is determined from one of frame size,
2 echo canceller tail length, codec type, and frame processing requirements.

13. (original):

- 1 The method of claim 11 wherein the task priority level corresponding to a particular data
2 frame type is pre-configured.

14. (original):

- 1 The method of claim 11 wherein each storage queue stores data frames of a different task
2 priority level than the other storage queues.

Appl. No. 09/683,993
Summary of Telephonic Interview
Dated July 18, 2006

15.-18. (cancelled)

19. (currently amended):

- 1 A method comprising:
 - 2 receiving one or more data streams, each data stream including one or more data frames
 - 3 of one or more data frame ~~types; types,~~ each data frame type corresponding to a particular
 - 4 processing time requirement for data frames of the data frame type;
 - 5 determining a task priority level for each data frame received;
 - 6 assigning a unique task identifier to each received data frame;
 - 7 storing each task identifier to one of multiple storage queues according to the task priority
 - 8 level of the corresponding data frame;
 - 9 retrieving task identifiers from the one or more storage queues during a task retrieval
 - 10 cycle according to a weighted processing scheme based on task priority ~~levels; and levels,~~
 - 11 wherein task identifiers corresponding to data frames of approximately equal total
 - 12 processing time requirements are retrieved from each storage queue in a task retrieval
 - 13 cycle;
 - 14 reassigning the task priority level for each data frame received prior to storing each task
 - 15 identifier if an overflow condition is detected in a first storage queue and if the task
 - 16 priority level would cause a task identifier to be stored in a first storage queue, the task
 - 17 priority level being reassigned to a task priority level that will cause the task identifier to
 - 18 be stored in other than the first storage ~~queue; queue; and~~
 - 19 placing a plurality of the retrieved task identifiers into an execution queue to be processed
 - 20 by a processing unit.

Appl. No. 09/683,993
Summary of Telephonic Interview
Dated July 18, 2006

20. (previously presented):

- 1 The method of claim 19 wherein the task priority level is determined from one of frame size,
2 echo canceller tail length, codec type, and frame processing requirements.

21.-23. (cancelled):

24. (currently amended):

- 1 A machine-readable medium having one or more instructions for scheduling processing tasks,
2 which when executed by a processor, causes the processor to perform operations comprising:
3 receiving one or more data streams, each data stream including one or more data frames
4 of one or more data frame types; types, each data frame type corresponding to a particular
5 processing time requirement for data frames of the data frame type;
6 determining the task priority level for each data frame received;
7 routing each data frame to one of one or more storage queues based on the task priority
8 level of each data frame; and
9 retrieving the data frames from the one or more storage queues during a task retrieval
10 cycle according to a fair and weighted processing scheme based on task priority level;
11 and level, wherein data frames of approximately equal total processing time are retrieved
12 from each storage queue in a task retrieval cycle;
13 reassigning the task priority level for each data frame received prior to routing if an
14 overflow condition is detected in a first storage queue and if the task priority level would
15 cause a data frame to be stored in the first storage queue, the task priority level being
16 reassigned to a task priority level that will cause the data frame to be stored in other than
17 the first storage queue; queue; and
18 placing a plurality of the retrieved data frames into an execution queue to be processed by
19 a processing unit.

25. (previously presented):

- 1 The machine-readable medium of claim 24 wherein the task priority level is determined from
2 one of frame size, echo canceller tail length, codec type, and frame processing requirements.

26. (original):

- 1 The machine-readable medium of claim 24 wherein each storage queue stores data frames of
2 a different task priority level than the other storage queues.

Appl. No. 09/683,993
Summary of Telephonic Interview
Dated July 18, 2006

27.-30. (cancelled)

Appl. No. 09/683,993
Summary of Telephonic Interview
Dated July 18, 2006

Conclusion

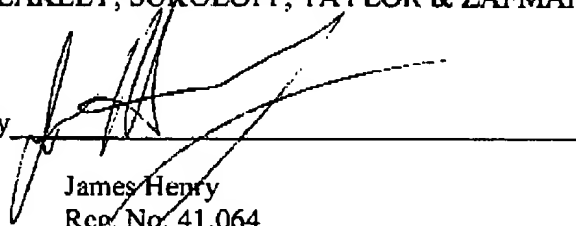
Applicant reserves all rights with respect to the applicability of the doctrine of equivalents. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: July 18, 2006

By



James Henry
Reg. No. 41,064
Tel.: (714) 557-3800 (Pacific Coast)